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WILDLIFE

Conservation model improves wildlife populations

by Will Moseley / wamoseley@noble.org

Conservation of wildlife populations and habitat in North America is unique to other conservation efforts across the globe. The North American Model of Wildlife Conservation is not a policy. Rather, it is a set of principles that wildlife managers use to shape policy and management decisions. Following are the seven principles that form the Model.

1. Wildlife is a public trust resource.
This is one of the most important principles of the Model. Wildlife is not owned by individuals. Even though individuals own land that wildlife resides on, wildlife is owned by the public. This highlights the importance of proper land stewardship on private lands to benefit public resources, and most landowners are good stewards of our shared wildlife populations.

2. Markets for game are eliminated.
Overexploitation of wildlife populations was one of the drivers to create this Model. Limiting markets for dead game animals and their parts reduced incentives for overexploitation of wildlife.

3. Allocation of wildlife is by law.
The government must manage wildlife for the benefit of current and future generations.

4. Wildlife should only be killed for legitimate purposes.
Many states have "wanton waste" laws that require hunters to make every effort to recover wounded or killed game and use edible portions of the animal. This principle emphasizes the importance of good hunting ethics.

5. Wildlife is an international resource.
Many wildlife species are migratory and spend their life cycle in multiple countries. As an example, the Migratory Bird Treaty Act is an agreement of the United States, Canada, Mexico, Japan and Russia to protect birds that migrate between these countries.

6. Wildlife policy should be science-based.
Policies affecting wildlife should be based on sound science.

7. Hunting is democratic.
Teddy Roosevelt felt strongly about the ability of citizens to have hunting opportunities. All citizens should have this opportunity not just those who are wealthy, own land or have high status. It is important to have public land available for hunting so all can enjoy our wildlife resources.

There are several examples of success stories from the Model such as the recovered populations of white-tailed deer, wild turkey and waterfowl. However, there are threats to the Model. There is an increasing amount of game farms and commercialization of native wildlife species, which threatens to take away public ownership and could create a market for game animals. Policy relating to wildlife is increasingly decided by those not involved with wildlife management. Additionally, adequate funding for wildlife research is lacking, which limits our ability to make better policy decisions.

Wildlife conservation has long been funded and supported by hunters and anglers. However, wildlife conservation is important to many people who are nonhunters and nonanglers as well. Ecotourism is a major industry with several activities such as bird watching, photography and hiking. We all must do our part to ensure our wildlife populations are available for enjoyment by future generations. This democratic model for conservation is important for the long-term sustainability of our nation's wildlife. ■

Alliance offers 1-day tall fescue renovation schools

by Carolyn Young, Ph.D. / cayoung@noble.org and James Rogers, Ph.D. / jkrogers@noble.org

Tall fescue makes excellent perennial forage that can be used to fill the forage gap when warm-season grasses go dormant. Tall fescue is adapted to regions of greater rainfall such as eastern Oklahoma and the eastern states in the transition zone. Unfortunately, the dominant tall fescue (usually referred to as Kentucky 31) commonly used across the United States comes with one major problem: fescue toxicosis. Livestock grazing toxic tall fescue may have lowered animal production such as reduced weight gain, poor body condition, lowered reproductive rates and lowered milk production, and elevated body temperatures resulting in livestock standing in water or wallowing around the water trough (as shown in the photo). It might be hard to believe, but the grass doesn't cause fescue toxicosis. A fungus, also known as an endophyte, which lives inside the grass, produces ergot alkaloids that are toxic to grazing livestock.

Over the years, producers have learned to manage fescue toxicosis by integrating other forages, monitoring grazing and supplementing feed. However, one option for eliminating fescue toxicosis is to replace your current tall fescue with a new variety infected with a strain of endophyte called nontoxic or "novel" endophyte that is unable to produce ergot alkaloids or only produces low levels. If you are thinking about replacing your pasture, there are a number of cultivar options available from Barenbrug, DLF International Seeds, Mountain View Seeds and Pennington Seed. Each cultivar has been bred for greater persistence and improved forage productivity, and each contains a livestock-safe endophyte strain. Example varieties are Jesup MaxQ®, Texoma MaxQ II®, Estancia with ArkShield®, Martin 2Protek® and BarOptima PLUS E34.

Signs of fescue toxicosis. These cattle were eating toxic tall fescue. They presented with lower average daily gains and liked to wallow around the water trough.

If you want to know more about replacing your toxic tall fescue, help is at hand. The Alliance for Grassland Renewal will host a novel tall fescue renovation school from 9 a.m. to 5 p.m., March 28, in Welch, Oklahoma. Novel tall fescue renovation schools offer a great way to find out how you can overcome animal productivity issues that come with grazing toxic tall fescue and learn about the benefits of replacing your pastures with one of the new varieties even if you think you are managing your toxic tall fescue. The school will cover topics from fescue toxicosis, new pasture establishment, seed quality, seed drill calibration, management, products and incentives. One speaker will also give a first-hand account of how he renovated his properties and the benefits he has seen since he finished converting his farm in 2009.

The cost is $60 per person or $110 for couples. Enrollment is limited and must be made by March 22. Walk-ins will pay $15 extra. The fee covers all educational materials and lunch. Registration for the schools and other information can be found at grasslandrenewal.org/education.htm. If you can't make it to this event, there will be three other schools held on March 29, 30 and 31, in Missouri. ■

Post-breeding nutrition affects heifer pregnancy rates

by Bryan Nichols / bmnichols@noble.org

Heifer breeding season is fast approaching. Achieving a desirable pregnancy rate in replacement heifers is contingent upon many things, but it all begins with nutrition. The vast majority of articles discussing heifer nutrition focus on the pre-breeding phase and address the desired body weight and condition at breeding. Pre-breeding nutrition is imperative but post-breeding nutrition should also be given due diligence. The following two studies demonstrate this very well.

In a study by Arias et al. (2012) conducted in Wyoming and Indiana, Angus-cross heifers were developed in dry lots to 65 percent of their mature body weight at breeding with an average daily gain of 1.74 pounds per day. All heifers were bred by artificial insemination (AI) and assigned to one of three treatments: 1) diet formulated to continue gaining weight at pre-breeding rate (GAIN), 2) diet formulated to maintain weight (MAINTAIN) and 3) diet formulated to lose weight (LOSE). Treatments were imposed for 21 days. During this time, GAIN heifers gained 1.74 pounds per day, MAINTAIN heifers gained 0.13 pounds per day and LOSE heifers lost 0.82 pounds per day. After 21 days, all heifers were commingled, turned out to pasture and exposed to cleanup bulls for 45 days.

First-service conception rates were 76.5 percent, 56.2 percent and 60.8 percent for GAIN, MAINTAIN and LOSE heifers, respectively. Season-long pregnancy rates were 96.1 percent, 85.7 percent and 84.3 percent for GAIN, MAINTAIN and LOSE heifers, respectively. A treatment imposed for only three weeks markedly reduced first-service conception rates by 15 to 20 percentage units and season-long pregnancy by approximately 12 percentage units.

Another Wyoming study examined the effect of post-breeding nutrition on conception rates, although from a slightly different angle. In this experiment, heifers were weaned in a dry lot for 45 days and turned out to pasture at least 30 days prior to breeding (EXPERIENCED) or were turned out to pasture immediately after breeding (NAIVE). There was no difference between heifers in percentage of mature body weight reached by the beginning of the breeding season (approximately 65 percent). Following breeding, EXPERIENCED heifers had increased average daily gain compared to NAIVE heifers and higher AI conception rates (59.4 percent vs. 49.1 percent). Data from a previous study by the same authors showed that during the first week after pasture turnout, heifers with no previous grazing experience lost 3.5 pounds per day during the first week of grazing. Heifers that had been previously transitioned onto the pasture were gaining 1.94 pounds per day. Although the pasture the heifers were offered was high-quality, the transition onto pasture was stressful from a nutritional standpoint for a short period of time. This can be deleterious to breeding success.

These studies demonstrate why it is imperative to avoid nutritional stressors on heifers that have recently been bred. Heifers should be maintained on a positive plane of nutrition after breeding. If heifers are to be turned out on pasture after breeding, it is best they are accustomed to grazing before breeding for at least 30 days. If they are not, these studies suggest turnout should be delayed for at least 21 days post-breeding. At the very least, adequate supplemental feed should be offered to help them through the transition. ■

References

Arias et al. 2012. *Effects of post-AI nutrition on growth performance and fertility of yearling beef heifers.* Proceedings, Western Section, American Society of Animal Science. 63:117-121.

Perry et al. 2013. *Evaluation of prior grazing experience on reproductive performance of beef heifers.* The Professional Animal Scientist. 29:595-600.

Pasture management plan prepares producer for year

by Hugh Aljoe / hdaljoe@noble.org

Spring will arrive soon. Therefore, now is the time to develop your pasture management plan to achieve the best possible outcomes this year. The purpose of the pasture management plan is to think through the specific management practices required to achieve the expected level of production for the growing season ahead. There are several aspects included in the specifics – location, timing, quantity of product, costs and efficacy. Each is very important; all ultimately impact the final results. The plan should take into consideration the management history of each unit, condition of pastures, productivity potentials and expectations of pastures, use (grazed or hayed) of pastures, and expected environmental conditions for the forthcoming growing season.

To begin, a producer should be sure the stocking rate accurately reflects the carrying capacity for each property and be prepared to perform the level of management required to maintain these livestock numbers throughout each season. He or she should be familiar with production capabilities of the soils and forages, seasonal growth curves by forage type, and the best management practices for the pasture types in his or her region. Immediately prior to creating a pasture management plan, a producer should perform an overall property assessment and review the previous year's plan so he or she is knowledgeable of current pasture conditions (stand cover and vigor, soil nutrient status, management issues or concerns) and the previous year's information (rainfall patterns, management activities, and pasture use and production).

Following is a stepwise process to create a pasture management plan for an operation.

1. Identify the goals for each property and the objectives with desired outcomes for each pasture unit.

Goals would include the kind and quantity of livestock to be pastured, amount of harvested forage to be produced, the time frame these activities will occur, and any issues to be actively addressed. Objectives would include the specifics on how the goals will be accomplished (i.e., specifics of fertilizing introduced pastures, establishing forage crops, herbicide applications, pasture recovery and renovations).

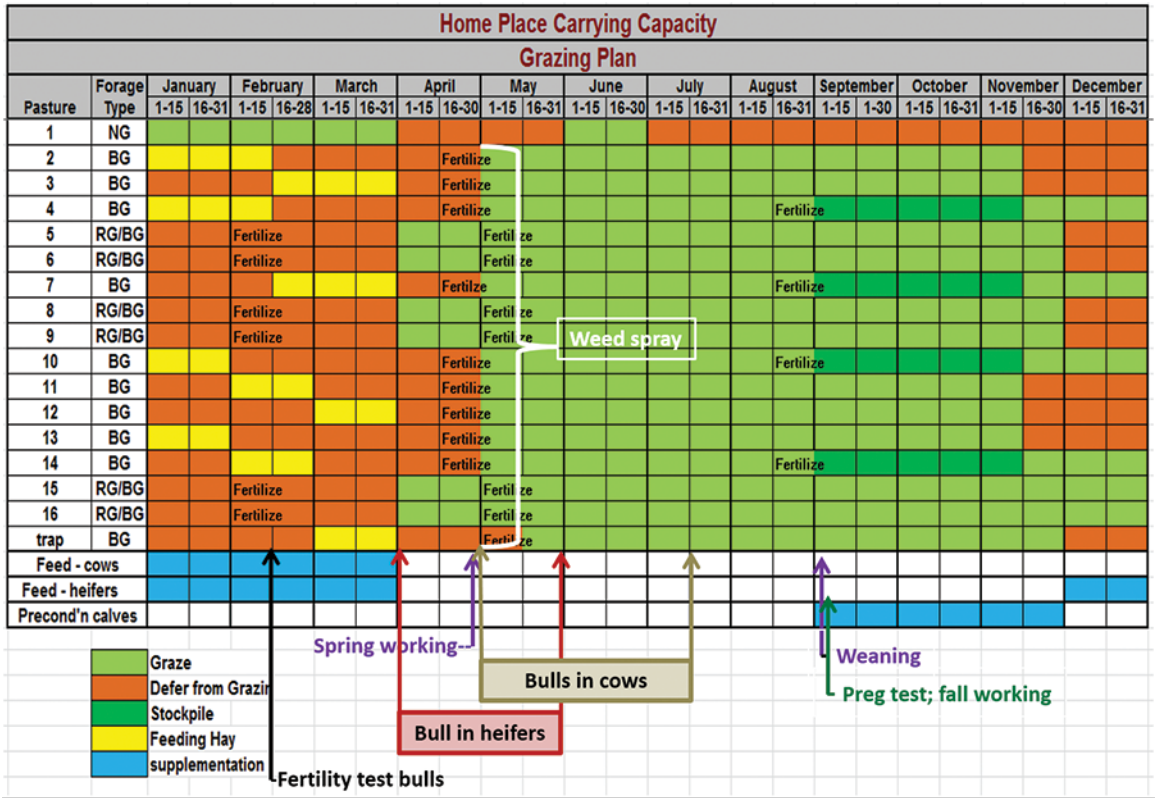

Figure 1.

2. Create a spreadsheet for each property in calendar form.
It should include an accurate pasture inventory (acres, forage type) down the far left column and the months of the year across the top row. The idea is to create a diagram that captures all the management activities for the year in one place.

3. On the spreadsheet, indicate the annual pasture management activities that are routinely anticipated to occur and the timing of each.

4. Indicate the annual livestock management activities that routinely occur; the timing of the pasture management activities should correlate with the livestock management practices.

5. Indicate other management practices needed to address specific issues that are not routinely planned.
Examples include perennial pasture establishment, targeted brush control treatment and prescribed burns.

6. Indicate any special dates to be aware of that need to be worked into the schedule and planned around.
These include family gatherings, conferences, bull sales, etc.

7. Add other noncritical activities to be accomplished if time allows.
Examples include clearing fence lines, cutting cedar trees, individual plant/area treatment of woody or weedy species.

8. Review diagram and determine if adjustments in event timings need to be made to allow for all critical activities to occur.
The end result desired is often a calendared spreadsheet as illustrated in Figure 1.

It has been said that a plan itself is of little value as it will change considerably from the first draft, but it is the thought process of creating a plan that is important. Having experienced the process of developing a pasture management plan, a producer is better prepared to implement the critical management practices in a timely manner and adapt to the actual seasons and unforeseen situations. The purpose of a pasture management plan is to aid the producer in achieving the identified goals for the operation and making better, timelier management decisions. It also provides an excellent template to track actual management activities as they occur throughout the year. ■

UPCOMING EVENTS

Beekeeping: Bee Installation Field Day
9 a.m.-noon
April 9, 16 or 23, 2016
(Date will be confirmed a week before the event to allow bees to reach the proper maturity stage. Registrants will be notified as soon as possible.)
Noble Foundation Learning Center
No Registration Fee

Pecan Grafting Workshop
Morning: 9 a.m.-noon
Afternoon: 1-4 p.m.
April 26, 2016
Noble Foundation Kruse Auditorium
No Registration Fee

Pond Management Workshop
8 a.m.-noon
May 10, 2016
Hagerman National Wildlife Refuge Center
6465 Refuge Road
Sherman, TX 75092
No Registration Fee
To register, please contact the Grayson County AgriLife Extension Office at 903-813-4205.

TEXAS A&M AGRILIFE EXTENSION

Small Property Livestock and Wildlife Field Day
9 a.m.-noon
May 12, 2016
Noble Foundation McMillan East Farm
No Registration Fee

Pecan Pest Management Workshop
9 a.m.-noon
May 17, 2016
Southern Oklahoma Technology Center
No Registration Fee

Please see full event descriptions online at noble.org

Novel hoop house design offers easier equipment access

by Steve Upson / sdupson@noble.org

"Necessity is the mother of invention." This has certainly been the case when it comes to high tunnel hoop house design and function. Over the years, innovative growers and fabricators have come up with creative solutions to improve venting, anchorage, mobility, strength and shape of high tunnel hoop house structures.

One necessity for growers using tillage and bedding equipment in permanent structures is the ability to pass through the structure unobstructed. While most high tunnel hoop house structures in use today are clear span, offering unobstructed movement inside the structure, the majority of end walls coupled with these structures do not permit unobstructed movement by equipment into and out of the structure.

During 2014, in preparation for an educational program, I was searching the Internet looking for novel end wall designs and came across an end wall designed by Tunnel Vision Hoops. In this "clamshell" design, the end wall and door are essentially one and the same. The genius of this design is that it creates additional growing space at each end of the house when the end wall is in the closed position in addition to providing unobstructed access by equipment. The only downside of this design is that it must be equipped with a separate side door for people access due to the impracticality of opening and closing the end wall each time the structure is entered and exited.

I received a call from Leon Sloan (Leon's Greenhouses, Kingston, Oklahoma) in early 2015 requesting I check out his new end wall design at his business location in Kingston. What I witnessed was an improved version of the clamshell end wall. Leon had never heard of Tunnel Vision Hoops and was not aware of their clamshell end wall. Leon had simply responded to grower request for an end wall that would allow unobstructed equipment access by designing an end wall I often refer to it as a clamshell end wall on steroids.

The Sloan clamshell end wall consists of a series of hoops that swivel at the base enabling the end wall to open and close. The base of the hoops are attached to a track by means of bolts. Each track is attached at one end to a corner of the structure and anchored to the ground by means of a ground post.

On large (wide) structures, a winch is required to operate the end wall. On smaller structures, the end walls can be opened and closed by hand.

Screw "trailer house" anchors equipped with chains attached to the end wall when closed are used to prevent the end wall from blowing open during windy conditions. Chains attached to the structure can also be used to lock the end wall into the desired open position. When opened a few feet above ground level, the clamshell continues to serve as a rain shelter for crops planted under the end wall while enabling ventilation.

Leon's version of the clamshell end wall has only been operational for about a year. No doubt Leon will continue to offer upgrades as the design is tweaked. With this being said, early reviews by growers using the clamshell end wall are encouraging.

Growers interested in learning more about the "clamshell end wall on steroids" are encouraged to contact Leon Sloan at 580-564-5909.

Necessity truly is the mother of invention. Just ask Leon Sloan! ■

Cattle Market Mobile app provides reports, tools

by Austin Miles / ramiles@noble.org

Hello, I'm Austin

Miles, a beef producer, agriculture advocate and self-proclaimed nerd. I serve as a research associate in the Center for Advanced Agricultural Systems and Technologies (CAAST) at the Noble Foundation but have served in a variety of roles over the last four years working with our research support and operations staff. Being a part of an organization that supports and empowers those involved in agriculture in the Southern Great Plains brings me great joy and pride. Throughout the year, I will be reviewing mobile apps I think could be helpful to producers.

Growing up, my grandfather captivated me with stories about his life, raising cattle and peanuts, the challenges he and his family faced on the farm, the struggles they overcame, and the tools he had at his disposal to take a crop or trailer-load of calves to market. While a lot has changed in 75 years, a lot has remained the same. Technologies are constantly being improved upon, torn down and rebuilt just to be dismantled once more. When we talk about technology, we are talking about a broad array of innovations be it in the form of a new implement, using sexed semen to breed cattle or a smartphone in the palm of a rancher's hand with more computing power than NASA had when man landed on the moon. The rate of change is mind-boggling; it is faster than yesterday yet slower than tomorrow, which makes it virtually impossible to stay on the cutting edge for long.

Cattle Market Mobile is probably one of the most used applications on my phone. This free app is a great way to check cattle prices for almost 300 locations nationwide, all gathered by the U.S. Department of Agriculture's Agricultural Marketing Service (AMS). In a few seconds and a couple of taps on my phone's screen, I can review information from the previous week's sale, itemized by animal class and weight, and read a brief summary of the market trends at that particular location. This app offers the ability to generate a variety of reports, such as a direct national cow and bull report, and the national daily and weekly slaughter reports. Additional features include built-in tools, such as a gestation calendar and a live-animal approximate value calculator. These tools provide quick dates and figures to help cattle producers make critical management decisions when determining a breeding schedule or when to market their cattle. Finally, Cattle Market Mobile is also available online at www.cattlemarketmobile.com. The website is just as user-friendly and concise as its mobile counterpart.

Likes

- Customizable by location
- Tools
- Additional reporting
- Multiple platforms

If I had to make one tweak to this application, I would like to see more local auction reports available. While major markets tend to bring larger drafts of animals weekly and yield higher prices, a large number of producers, including myself, still do business with their smaller local barns.

Market reports from these venues are typically available, but it would be nice if they were in the same convenient location and format found on the Cattle Market Mobile app and website.

Dislikes

- Auction information not available for smaller markets
- Tools only available in app, not on website

Accessing and understanding the information needed to make better marketing decisions is crucial to maximize the value of your cattle at the time of sale. Monitoring cattle prices and staying abreast of changes in the market is easier than ever thanks to advancements in technology and applications such as Cattle Market Mobile. Isn't it cool when cowboy boots and a keyboard collide? ■

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EVENTS

Beef Quality Assurance (BQA) Workshop
Time: 1:30-4:30 p.m.
Date: March 8, 2016
Location: Noble Foundation Kruse Auditorium
No Registration Fee

Novel Tall Fescue Renovation School
Time: 9 a.m.-5 p.m.
Date: March, 28, 2016
Location: Cherokee Red Barn
Welch, Oklahoma

Visit www.grasslandrenewal.org/education.htm to register.

Beekeeping Field Day: Bee Installation
Time: 9 a.m.-noon
Date: April 9, 16 or 23, 2016
Location: Noble Foundation Learning Center
No Registration Fee

For more information or to register, please visit www.noble.org/agevents or call Maggie Scott at 580-224-6375. Preregistration is requested.

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